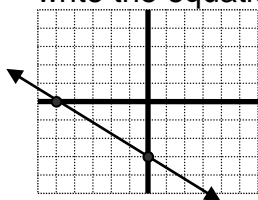
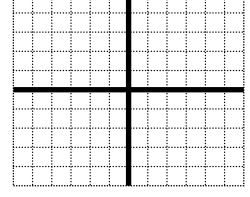
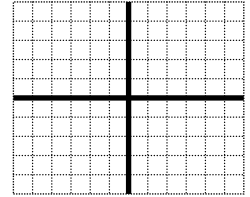
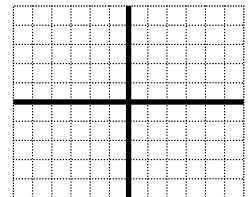
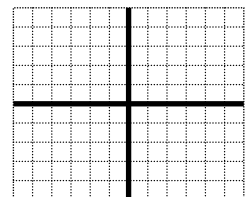
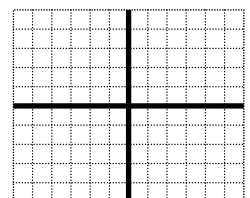
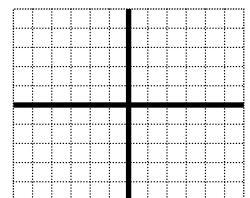
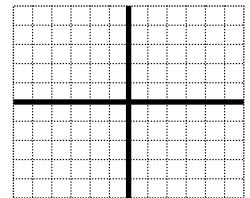
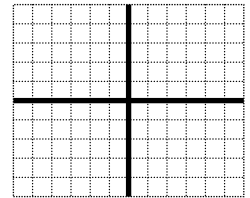


CHAPTER 3 Practice Problems for the Test

- Determine whether or not the point  $(-5, 4)$  satisfies the linear equation  $4x + y = -12$ .
- Complete the table on the right for the equation  $3x - y = 9$
- Graph  $5x + 2y = 8$ .
- Find the x-intercept point and the y-intercept point and graph  $3x - 4y = -12$ .
- Find the slope of the line through the points  $(4, 2)$  and  $(2, -7)$ .
- Find the slope and the y-intercept point of the line from the equation  $3x + 2y = 6$ .
- Find the slope and the y-intercept point and write the equation of the line in the graph below.

| X  | Y  |
|----|----|
|    | 0  |
|    | -3 |
| 5  |    |
| -4 |    |



- Graph the equation  $x = -4$ .
- Graph the linear equation  $y = -1$ .
- Graph the linear equation  $4x + 3y = 12$ .
- Graph the line with a slope of  $-2/7$  through the point  $(-4, 3)$
- Write the equation of a line with  $m = -2$  through the point  $(-3, -1)$  in slope-intercept form.
- Write the equation of a line through the points  $(-3, 5)$  and  $(3, 1)$  in slope-intercept form.

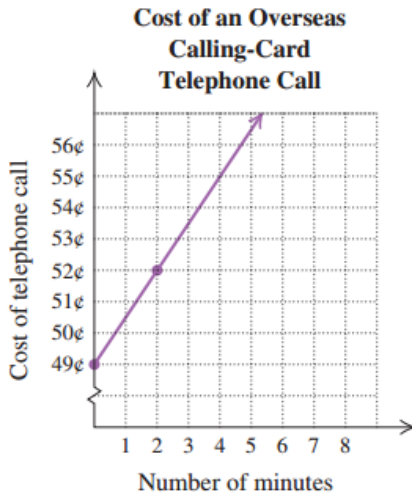
Determine if the two equations make lines that are parallel, perpendicular or neither.

- |                    |                  |                  |
|--------------------|------------------|------------------|
| 14. $2x - 5y = -3$ | 15. $y = 5 - 3x$ | 16. $y = 4x - 5$ |
| $2x + 5y = 4$      | $3x + y = 8$     | $4y = 8 - x$     |

- Write a slope-intercept equation of a line through the point  $(0, -1)$  and parallel to the line  $3x + 2y = 5$ .
- Write a slope-intercept equation of a line through the point  $(0, -1)$  and **perpendicular** to the line  $3x + 2y = 5$ .
- Write a slope-intercept equation of a line through the point  $(-2, -3)$  and parallel to the line  $2x + 3y = -7$ .
- Write a slope-intercept equation of a line through the point  $(-2, -5)$  and **perpendicular** to the line  $x - 2y = 3$ .

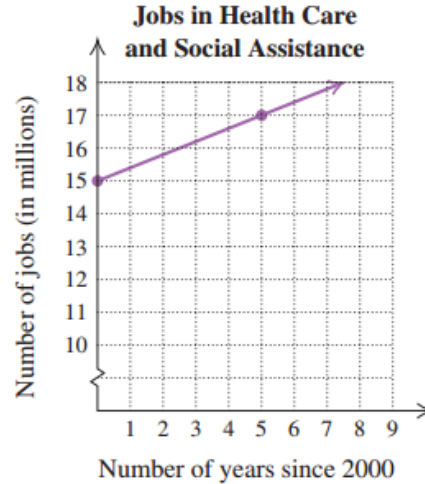
Write the equation for each graph and interpret the slope from the context of the graph.

21.



Source: www.pennytalk.com

22.



Source: U.S. Bureau of Labor Statistics

23. U.S. college enrollment has grown from approximately 14.3 million in 1995 to 17.4 million in 2005.

- (A) What should  $x$  and  $y$  represent?
- (B) Write the equation of number of college students enrolled.
- (C) What should be the college enrollment for 2010?

24. The table shows the income for newspapers internet sales in billions of dollars. Let  $x$  = the number of years since 2000 and  $y$  = the sales in billions of dollars.

| Year | \$ Billion |
|------|------------|
| 2000 | 15         |
| 2001 | 20         |
| 2002 | 23         |
| 2003 | 30         |
| 2004 | 37         |
| 2005 | 40         |

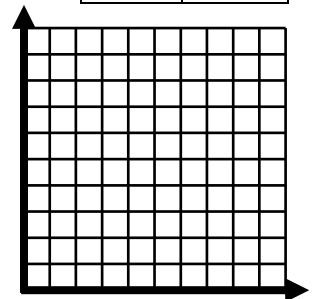
- (A) Label the axes, determine the scale, graph the points and sketch a **best fit line**.
- (B) Write an equation for the sales using your best fit line.
- (C) Use your equation to predict what the sales should have been in 2010.

**Answer**

- 1. No
- 2.  $(3,0), (2,-3), (5,6), (-4,-21)$
- 3.
- 4.
- 5.  $m = 9/2$
- 6.  $m = -3/2$
- 7. Point =  $(0,-3)$ ;  $m = -3/5$ ; eq:  $y = -3/5x - 3$
- 8.

- 9.
- 10.
- 11.

- 12.  $y = -2x - 7$
- 13.  $y = -2/3x + 3$
- 14. Neither
- 15. Parallel
- 16. Perpendicular
- 17.  $y = (-3/2)x - 1$
- 18.  $y = (2/3)x - 1$
- 19.  $y = (-2/3)x - 13/3$



- 20.  $y = -2x - 9$
- 21.  $m = 15$  cents per minute  
 $y = 0.15x - 0.49$
- 22.  $m = 2$  million jobs in 5 years or  
 $m = 400,000$  jobs per year  
 $y = (2/5)x + 15$
- 23. (A)  $x$  = years since 1995  
 $y$  = enrollment in millions  
 $(0, 14.3)$  and  $(10, 17.4)$   
(B)  $y = 0.31x + 14.3$   
(C) 18.95 million students enrolled
- 24. (A) Graph not shown  
 $x$  should start at 0 not 2000  
(B)  $y = 5x + 15$   
(C) \$65 billion in sales